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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,701	07/14/2003	Moriyasu Sumi	108390-00050	3713
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ARENT FOX PLLC 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			EXAMINER GRAHAM, CLEMENT B	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/617,701	<b>Applicant(s)</b> SUMI ET AL.	
	<b>Examiner</b> Clement B. Graham	<b>Art Unit</b> 3692	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 7/14/03.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over Tilton U.S Pub: 20040098329 in view of Keys U.S Patent 70034900 B1.

As per claim 1, Tilton discloses a loan asset managing system, comprising: a loan asset analyzing means that analyzes a first portfolio in first loan assets formed by lending money or a product to users according to financial product conditions, based on loan asset information that is information on said first loan assets, and outputs a first analysis result (note abstract and see para 0012 –0014 and 0057 and 0103) a securities current value evaluating means that analyzes a second portfolio in second loan assets in relation to current values of loan asset-based securities that are results of securitizing said second loan assets, based on information on said loan asset-based securities, and outputs a second analysis result (note abstract and see para 0012 – 0014 and 0057 and 0103).

Tilton fail to explicitly teach a difference extracting means that compares said first analysis result outputted by said loan asset analyzing means and said second analysis result outputted by said securities current value evaluating means and extracts a difference between said second portfolio and said first portfolio; and an examination condition changing means that changes examination conditions for examining said users when said money or product is lent to the users, based on the difference extracted by said difference extracting means.

However Keys discloses a system for performing multivariate classification and regression tree analysis for valuing a portfolio of non-performing loans using p explanatory variables, said system comprising: at least one computer having a user

interface for enabling a user to input information relating to the portfolio of non-performing loans; a server in communication with the at least one computer, said server configured to read input information relating to the portfolio of non-performing loans said server further configured to perform the steps of: defining a first "parent" node representing the portfolio of non-performing loans defining a split function to determine whether to create "child" nodes by generating a probability density function of the p explanatory variables at a corresponding parent node using a multivariate normal distribution, creating "child" nodes when a split function value for the corresponding parent node and child nodes indicates that the parent node is statistically non-homogeneous with respect to at least one of the p variables, wherein statistical non-homogeneity is determined by comparing the split function value for the corresponding parent and child nodes, and wherein statistical non-homogeneity indicates a greater predictive value included within at least one of the created child nodes as compared to the corresponding parent node, repeating said steps of defining a split function and creating "child" nodes until the parent node is statistically homogeneous, calculating y based on the p explanatory variables and the defined split functions, wherein y is a multivariate response vector representing a predicted recovery amount and a predicted timing value the predicted recovery amount including at least one amount predicted to be recovered for each non-performing loan included within the portfolio of non-performing loans the predicted timing value including at least one value predicting when each predicted recovery amount will be recovered, and determining a value of the portfolio of non-performing loans based on the calculated y; and a network connecting said computer to said server.(see column 8 lines1-47).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made modify the teachings of Tilton to include a difference extracting means that compares said first analysis result outputted by said loan asset analyzing means and said second analysis result outputted by said securities current value evaluating means and extracts a difference between said second portfolio and said first portfolio and an examination condition changing means that changes examination conditions for examining said users when said money or product is lent to the users,

based on the difference extracted by said difference extracting means taught by Keys in order to allow inclusion of more than one variable in a Classification and Regression Tree (CART) analysis. The method includes predicting  $y$  using  $p$  exploratory variables, where  $y$  is a multivariate response vector. A statistical distribution function is then described at "parent" and "child" nodes using a multivariate normal distribution, which is a function of  $y$ . A split function where "child" node distributions are individualized, compared to the parent node is then defined.

As per claim 2, Tilton discloses wherein said financial product conditions are determined by the kind of financial product used by said users, said loan asset managing system further comprising:

a financial product condition changing means that changes said financial product conditions of said financial product based on the difference extracted by said difference extracting means. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 3, Tilton discloses further comprising:

an optimizing means that makes adjustment of a degree of the change in said examination conditions made by said examination condition changing means and a degree of the change in said financial product conditions made by said financial product condition changing means to optimize these degrees. (note abstract and see para 0012-0014 and 0057 and 0103).

As per claim 4, Tilton discloses further comprising:

an examining means that examines said users based on information on said users and said examination conditions changed by said examination condition changing means. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 5, Tilton discloses further comprising:

an examining means that examines said users based on information on said users and said examination conditions changed by said examination condition changing means. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 6, Tilton discloses further comprising:

an examining means that examines said users based on information on said users and

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said examination conditions changed by said examination condition changing means. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 7, Tilton discloses further comprising:

a loan asset managing means that manages a loan asset of said financial product for which said financial product conditions are set, based on said financial product conditions changed by said financial product condition changing means. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 8, Tilton discloses further comprising:

a loan asset managing means that manages a loan asset of said financial product for which said financial product conditions are set, based on said financial product conditions changed by said financial product condition changing means. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 9, Tilton further comprising:

a loan asset managing means that manages a loan asset of said financial product for which said financial product conditions are set, based on said financial product conditions changed by said financial product condition changing means. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 10, Tilton discloses wherein said examining means reexamines said users based on user information used in past examination and said changed examination conditions when said examination condition changing means changes said examination conditions. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 11, Tilton discloses wherein said examining means reexamines said users based on user information used in past examination and said changed examination conditions when said examination condition changing means changes said examination conditions. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 12, Tilton discloses wherein said examining means reexamines said users based on user information used in past examination and said changed examination conditions when said examination condition changing means changes said examination conditions. (note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 13, Tilton discloses a loan asset managing method, comprising: a first step of analyzing a first portfolio in first loan assets formed by lending money or a product to users according to financial product conditions, based on loan asset information that is information on said first loan assets and outputting a first analysis result(note abstract and see para 0012 –0014 and 0057 and 0103)  
a second step of analyzing a second portfolio in second loan assets in relation to current values of loan asset-based securities that are results of securitizing said second loan assets, based on information on said loan asset-based securities and outputting a second analysis result(note abstract and see para 0012 – 0014 and 0057 and 0103).

Tilton fail to explicitly teach a third step of comparing said first analysis result outputted in said first step and said second analysis result outputted in said second step and extracting a difference between said second portfolio and said first portfolio; and a fourth step of changing examination conditions for examining said users when said money or product is lent to the users, based on the difference extracted in said third step.

However Keys discloses a system for performing multivariate classification and regression tree analysis for valuing a portfolio of non-performing loans using p explanatory variables, said system comprising: at least one computer having a user interface for enabling a user to input information relating to the portfolio of non-performing loans; a server in communication with the at least one computer, said server configured to read input information relating to the portfolio of non-performing loans said server further configured to perform the steps of: defining a first "parent" node representing the portfolio of non-performing loans defining a split function to determine whether to create "child" nodes by generating a probability density function of the p explanatory variables at a corresponding parent node using a multivariate normal distribution, creating "child" nodes when a split function value for the corresponding parent node and child nodes indicates that the parent node is statistically non-homogeneous with respect to at least one of the p variables, wherein statistical non-homogeneity is determined by comparing the split function value for the corresponding

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parent and child nodes, and wherein statistical non-homogeneity indicates a greater predictive value included within at least one of the created child nodes as compared to the corresponding parent node, repeating said steps of defining a split function and creating "child" nodes until the parent node is statistically homogeneous, calculating  $y$  based on the  $p$  explanatory variables and the defined split functions, wherein  $y$  is a multivariate response vector representing a predicted recovery amount and a predicted timing value the predicted recovery amount including at least one amount predicted to be recovered for each non-performing loan included within the portfolio of non-performing loans the predicted timing value including at least one value predicting when each predicted recovery amount will be recovered, and determining a value of the portfolio of non-performing loans based on the calculated  $y$ ; and a network connecting said computer to said server.(see column 8 lines1-47).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made modify the teachings of Tilton to include a third step of comparing said first analysis result outputted in said first step and said second analysis result outputted in said second step and extracting a difference between said second portfolio and said first portfolio and a fourth step of changing examination conditions for examining said users when said money or product is lent to the users, based on the difference extracted in said third step taught by Keys in order to allow inclusion of more than one variable in a Classification and Regression Tree (CART) analysis. The method includes predicting  $y$  using  $p$  exploratory variables, where  $y$  is a multivariate response vector. A statistical distribution function is then described at "parent" and "child" nodes using a multivariate normal distribution, which is a function of  $y$ . A split function where "child" node distributions are individualized, compared to the parent node is then defined.

As per claim 14, Tilton discloses wherein said financial product conditions are determined by the kind of financial product used by said users, said loan asset managing method further comprising:  
a fifth step of changing said financial product conditions of said financial product based

on the difference extracted in said third step. note abstract and see para 0012 –0014 and 0057 and 0103).

As per claim 15, Tilton discloses further comprising:  
an optimizing step of adjusting a degree of the change in said examination conditions made in said fourth step and a degree of the change in said financial product conditions made in said fifth step to optimize these degrees. note abstract and see para 0012 – 0014 and 0057 and 0103).

As per claim 16, Tilton discloses further comprising:  
an examining step of examining said users based on information on said users and said examination conditions changed in said fourth step. note abstract and see para 0012 – 0014 and 0057 and 0103).

As per claim 17, Tilton discloses a computer-readable recording medium on which a computer program is recorded, said computer program comprising:

a computer-readable program code means for executing a first step of analyzing a first portfolio in first loan assets formed by lending money or a product to users according to financial product conditions, based on loan asset information that is information on said first loan assets and outputting a first analysis result note abstract and see para 0012 – 0014 and 0057 and 0103)

a computer-readable program code means for executing a second step of analyzing a second portfolio in second loan assets in relation to current values of loan asset-based securities that are results of securitizing said second loan assets, based on information on said loan asset-based securities, and outputting a second analysis result note abstract and see para 0012 –0014 and 0057 and 0103)

a computer-readable program code means for executing a fourth step of changing examination conditions for examining said users when said money or product is lent to the users, based on the difference extracted in said third step. note abstract and see para 0012 –0014 and 0057 and 0103).

Tilton fail to explicitly teach a computer-readable program code means for executing a third step of comparing said first analysis result outputted in said first step and said

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second analysis result outputted in said second step and extracting a difference between said second portfolio and said first portfolio.

However Keys discloses a system for performing multivariate classification and regression tree analysis for valuing a portfolio of non-performing loans using  $p$  explanatory variables, said system comprising: at least one computer having a user interface for enabling a user to input information relating to the portfolio of non-performing loans; a server in communication with the at least one computer, said server configured to read input information relating to the portfolio of non-performing loans said server further configured to perform the steps of: defining a first "parent" node representing the portfolio of non-performing loans defining a split function to determine whether to create "child" nodes by generating a probability density function of the  $p$  explanatory variables at a corresponding parent node using a multivariate normal distribution, creating "child" nodes when a split function value for the corresponding parent node and child nodes indicates that the parent node is statistically non-homogeneous with respect to at least one of the  $p$  variables, wherein statistical non-homogeneity is determined by comparing the split function value for the corresponding parent and child nodes, and wherein statistical non-homogeneity indicates a greater predictive value included within at least one of the created child nodes as compared to the corresponding parent node, repeating said steps of defining a split function and creating "child" nodes until the parent node is statistically homogeneous, calculating  $y$  based on the  $p$  explanatory variables and the defined split functions, wherein  $y$  is a multivariate response vector representing a predicted recovery amount and a predicted timing value the predicted recovery amount including at least one amount predicted to be recovered for each non-performing loan included within the portfolio of non-performing loans the predicted timing value including at least one value predicting when each predicted recovery amount will be recovered, and determining a value of the portfolio of non-performing loans based on the calculated  $y$ ; and a network connecting said computer to said server.(see column 8 lines1-47).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made modify the teachings of Tilton to include a computer-readable

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program code means for executing a third step of comparing said first analysis result outputted in said first step and said second analysis result outputted in said second step and extracting a difference between said second portfolio and said first portfolio taught by Keys in order to allow inclusion of more than one variable in a Classification and Regression Tree (CART) analysis. The method includes predicting  $y$  using  $p$  exploratory variables, where  $y$  is a multivariate response vector. A statistical distribution function is then described at "parent" and "child" nodes using a multivariate normal distribution, which is a function of  $y$ . A split function where "child" node distributions are individualized, compared to the parent node is then defined.

As per claim 18, Tilton discloses wherein said financial product conditions are determined by the kind of financial product used by said users, and wherein said computer program further comprises a computer-readable program code means for executing a fifth step of changing said financial product conditions of said financial product based on the difference extracted in said third step. (note abstract and see para 0012 –0014 and 0057 and 0103)

As per claim 19, Tilton discloses a computer program product comprising: a computer-readable program code means for executing a first step of analyzing a first portfolio in first loan assets formed by lending money or a product to users according to financial product conditions, based on loan asset information that is information on said first loan assets and outputting a first analysis result; a computer-readable program code means for executing a second step of analyzing a second portfolio in second loan assets in relation to current values of loan asset-based securities that are results of securitizing said second loan assets, based on information on said loan asset-based securities, and outputting a second analysis result (note abstract and see para 0012 –0014 and 0057 and 0103) and a computer-readable program code means for executing a fourth step of changing examination conditions for examining said users when said money or product is lent to. Tilton fail to explicitly teach the users, based on the difference extracted in said third step a computer-readable program code means for executing a third step of comparing said first analysis result outputted in said first step and said second analysis result

outputted in said second step and extracting a difference between said second portfolio and said first portfolio.

However Keys discloses a system for performing multivariate classification and regression tree analysis for valuing a portfolio of non-performing loans using  $p$  explanatory variables, said system comprising: at least one computer having a user interface for enabling a user to input information relating to the portfolio of non-performing loans; a server in communication with the at least one computer, said server configured to read input information relating to the portfolio of non-performing loans said server further configured to perform the steps of: defining a first "parent" node representing the portfolio of non-performing loans defining a split function to determine whether to create "child" nodes by generating a probability density function of the  $p$  explanatory variables at a corresponding parent node using a multivariate normal distribution, creating "child" nodes when a split function value for the corresponding parent node and child nodes indicates that the parent node is statistically non-homogeneous with respect to at least one of the  $p$  variables, wherein statistical non-homogeneity is determined by comparing the split function value for the corresponding parent and child nodes, and wherein statistical non-homogeneity indicates a greater predictive value included within at least one of the created child nodes as compared to the corresponding parent node, repeating said steps of defining a split function and creating "child" nodes until the parent node is statistically homogeneous, calculating  $y$  based on the  $p$  explanatory variables and the defined split functions, wherein  $y$  is a multivariate response vector representing a predicted recovery amount and a predicted timing value the predicted recovery amount including at least one amount predicted to be recovered for each non-performing loan included within the portfolio of non-performing loans the predicted timing value including at least one value predicting when each predicted recovery amount will be recovered, and determining a value of the portfolio of non-performing loans based on the calculated  $y$ ; and a network connecting said computer to said server.(see column 8 lines1-47).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made modify the teachings of Tilton to include the users, based on the

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difference extracted in said third step a computer-readable program code means for executing a third step of comparing said first analysis result outputted in said first step and said second analysis result outputted in said second step and extracting a difference between said second portfolio and said first portfolio taught by Keys in order to allow inclusion of more than one variable in a Classification and Regression Tree (CART) analysis. The method includes predicting  $y$  using  $p$  exploratory variables, where  $y$  is a multivariate response vector. A statistical distribution function is then described at "parent" and "child" nodes using a multivariate normal distribution, which is a function of  $y$ . A split function where "child" node distributions are individualized, compared to the parent node is then defined.

As per claim 20, Tilton discloses wherein said financial product conditions are determined by the kind of financial product used by said users, said computer program product further comprising:

a computer-readable program code means for executing a fifth step of changing said financial product conditions of said financial product based on the difference extracted in said third step. (note abstract and see para 0012 –0014 and 0057 and 0103).

### **Conclusion**

3. The prior art of record and not relied upon is considered pertinent to Applicants disclosure.

Liddy Eder (US Patent 6, 026, 388) teaches user interface and other enhancements for natural language information retrieval system and method.

Kohorn US PATENT: 5, 508, 731) teaches generation of enlarged participatory broadcast audience.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement B Graham whose telephone number is 703-305-1874. The examiner can normally be reached on 7am to 5pm.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement B Graham whose telephone number is 703-305-1874. The examiner can normally be reached on 7am to 5pm.

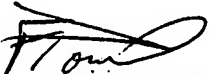
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 703-308-0505. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 703-305-0040 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CG

August 11, 2007

  
FRANTZY POINVIL  
PRIMARY EXAMINER  
Au 3692